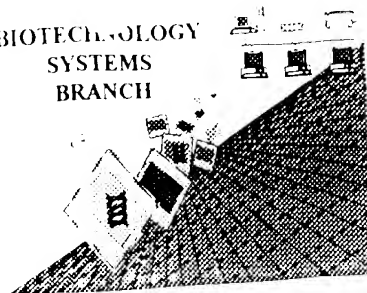


RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/820,053

Source: OIPF

Date Processed by STIC: 4/11/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST 25. Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/820,053

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 _____ Wrapped Nucleics
The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2 _____ Wrapped Aminos
The amino acid number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3 _____ Incorrect Line Length
The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4 _____ Misaligned Amino Acid Numbering
The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5 _____ Non-ASCII
This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6 _____ Variable Length
Sequence(s) _____ contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.
- 7 _____ PatentIn ver. 2.0 "bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. **This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.**
- 8 _____ Skipped Sequences (OLD RULES)
Sequence(s) _____ missing. If intentional, please use the following format for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X:
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
This sequence is intentionally skipped

Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9 _____ Skipped Sequences (NEW RULES)
Sequence(s) _____ missing. If intentional, please use the following format for each skipped sequence.
<210> sequence id number
<400> sequence id number
000
- 10 _____ Use of n's or Xaa's (NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 11 _____ Use of "Artificial" (NEW RULES)
Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules.
Valid response is Artificial Sequence.
- 12 _____ Use of <220>Feature (NEW RULES)
Sequence(s) _____ are missing the <220>Feature and associated headings.
Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial Sequence" or "Unknown"
Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
- 13 _____ PatentIn ver. 2.0 "bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).
Instead, please use "File Manager" or any other means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\I820053.raw

pg 1-5

Does Not Comply
Corrected Diskette Needed

3 <110> APPLICANT: Owen, Donald R.
5 <120> TITLE OF INVENTION: SHORT BIOACTIVE PEPTIDES
7 <130> FILE REFERENCE: HELX027
9 <140> CURRENT APPLICATION NUMBER: US/09/820,053
10 <141> CURRENT FILING DATE: 2001-03-28
12 <160> NUMBER OF SEQ ID NOS: 165
14 <170> SOFTWARE: PatentIn Ver. 2.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 23
18 <212> TYPE: PRT
19 <213> ORGANISM: SYNTHETIC
21 <400> SEQUENCE: 1
22 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys Lys Leu Lys
23 1 5 10 15
25 Lys Ala Leu Lys Lys Ala Leu
26 20
29 <210> SEQ ID NO: 2
30 <211> LENGTH: 23
31 <212> TYPE: PRT
32 <213> ORGANISM: SYNTHETIC
34 <220> FEATURE:
35 <221> NAME/KEY: MOD_RES
36 <222> LOCATION: (23)
37 <223> OTHER INFORMATION: AMIDATION
39 <400> SEQUENCE: 2
40 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys Lys Leu Lys
41 1 5 10 15
43 Lys Ala Leu Lys Lys Ala Leu
44 20
47 <210> SEQ ID NO: 3
48 <211> LENGTH: 38
49 <212> TYPE: PRT
50 <213> ORGANISM: SYNTHETIC
52 <400> SEQUENCE: 3
53 Met Pro Lys Trp Lys Val Phe Lys Lys Ile Glu Lys Val Gly Arg Asn
54 1 5 10 15
56 Ile Arg Asn Gly Ile Val Lys Ala Gly Pro Ala Ile Ala Val Leu Gly
57 20 25 30
59 Glu Ala Lys Ala Leu Gly
60 35
63 <210> SEQ ID NO: 4
64 <211> LENGTH: 23
65 <212> TYPE: PRT
66 <213> ORGANISM: SYNTHETIC
68 <220> FEATURE:
69 <221> NAME/KEY: MOD_RES
70 <222> LOCATION: (23)

Per 1.823 of Sequence Rules, the only valid <213>
responses are: Unknown,
Artificial Sequence, or
scientific name (Genus/species)
(one of the three)

(see circled
portion of item 12
on inner summary
sheet)

4/11/01

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\1820053.raw

71 <223> OTHER INFORMATION: AMIDATION
73 <400> SEQUENCE: 4
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75 1 5 10 15
77 Ala Lys Leu Ala Leu Ala Leu
78 20
81 <210> SEQ ID NO: 5
82 <211> LENGTH: 38
83 <212> TYPE: PRT
84 <213> ORGANISM: SYNTHETIC
86 <220> FEATURE:
87 <221> NAME/KEY: MOD_RES
88 <222> LOCATION: (38)
89 <223> OTHER INFORMATION: AMIDATION
91 <400> SEQUENCE: 5
92 Met Pro Lys Trp Lys Val Phe Lys Lys Ile Glu Lys Val Gly Arg Asn
93 1 5 10 15
95 Ile Arg Asn Gly Ile Val Lys Ala Gly Pro Ala Ile Ala Val Leu Gly
96 20 25 30
98 Glu Ala Lys Ala Leu Gly
99 35
102 <210> SEQ ID NO: 6
103 <211> LENGTH: 23
104 <212> TYPE: PRT
105 <213> ORGANISM: SYNTHETIC
107 <400> SEQUENCE: 6
108 Phe Ala Lys Lys Leu Ala Lys Lys Leu Lys Lys Leu Ala Lys Lys Leu
109 1 5 10 15
111 Ala Lys Leu Ala Leu Ala Leu
112 20
115 <210> SEQ ID NO: 7
116 <211> LENGTH: 23
117 <212> TYPE: PRT
118 <213> ORGANISM: SYNTHETIC
120 <220> FEATURE:
121 <221> NAME/KEY: MOD_RES
122 <222> LOCATION: (23)
123 <223> OTHER INFORMATION: AMIDATION
125 <400> SEQUENCE: 7
126 Gly Ile Gly Lys Phe Leu His Ser Ala Lys Lys Phe Gly Lys Ala Phe
127 1 5 10 15
129 Val Gly Gly Ile Met Asn Ser
130 20
133 <210> SEQ ID NO: 8
134 <211> LENGTH: 23
135 <212> TYPE: PRT
136 <213> ORGANISM: SYNTHETIC
138 <220> FEATURE:
139 <221> NAME/KEY: MOD_RES

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\I820053.raw

140 <222> LOCATION: (23)
141 <223> OTHER INFORMATION: AMIDATION
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144 Phe Ala Leu Ala Ala Lys Ala Leu Lys Lys Leu Ala Lys Lys Leu Lys 15
145 1 5 10
147 Lys Leu Ala Lys Lys Ala Leu 20
148 20
151 <210> SEQ ID NO: 9
152 <211> LENGTH: 23
153 <212> TYPE: PRT
154 <213> ORGANISM: SYNTHETIC
156 <220> FEATURE:
157 <221> NAME/KEY: MOD_RES
158 <222> LOCATION: (23)
159 <223> OTHER INFORMATION: AMIDATION
161 <400> SEQUENCE: 9
162 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Leu Lys Lys Leu Lys 15
163 1 5 10
165 Lys Leu Ala Lys Lys Ala Leu 20
166 20
169 <210> SEQ ID NO: 10
170 <211> LENGTH: 23
171 <212> TYPE: PRT
172 <213> ORGANISM: SYNTHETIC
174 <220> FEATURE:
175 <221> NAME/KEY: MOD_RES
176 <222> LOCATION: (23)
177 <223> OTHER INFORMATION: AMIDATION
179 <400> SEQUENCE: 10
180 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Ala Lys Lys Leu Lys 15
181 1 5 10
183 Lys Leu Ala Lys Lys Ala Leu 20
184 20
187 <210> SEQ ID NO: 11
188 <211> LENGTH: 21
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190 <213> ORGANISM: SYNTHETIC
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193 <221> NAME/KEY: MOD_RES
194 <222> LOCATION: (21)
195 <223> OTHER INFORMATION: AMIDATION
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198 Phe Ala Leu Ala Lys Leu Ala Lys Lys Ala Lys Ala Lys Leu Lys Lys 15
199 1 5 10
201 Ala Leu Lys Ala Leu 20
202 20
205 <210> SEQ ID NO: 12
206 <211> LENGTH: 19
207 <212> TYPE: PRT

RAW SEQUENCE LISTING
PATENT APPLICATION. US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set : N:\CRF3\04112001\I820053.raw

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210 <220> FEATURE:
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212 <222> LOCATION: (19)
213 <223> OTHER INFORMATION: AMIDATION
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      1           5           10           15
217
219 Lys Ala Leu
223 <210> SEQ ID NO: 13
224 <211> LENGTH: 19
225 <212> TYPE: PRT
226 <213> ORGANISM: SYNTHETIC
228 <400> SEQUENCE: 13
229 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Lys Lys Ala Leu Lys
      1           5           10           15
230
232 Lys Ala Leu
236 <210> SEQ ID NO: 14
237 <211> LENGTH: 19
238 <212> TYPE: PRT
239 <213> ORGANISM: SYNTHETIC
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242 Phe Ala Lys Lys Leu Ala Lys Lys Leu Lys Lys Leu Ala Lys Leu Ala
      1           5           10           15
243
245 Leu Ala Leu
249 <210> SEQ ID NO: 15
250 <211> LENGTH: 23
251 <212> TYPE: PRT
252 <213> ORGANISM: SYNTHETIC
254 <220> FEATURE:
255 <221> NAME/KEY: MOD_RES
256 <222> LOCATION: (23)
257 <223> OTHER INFORMATION: AMIDATION
259 <400> SEQUENCE: 15
260 Val Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys Lys Leu Lys
      1           5           10           15
261
263 Lys Ala Leu Lys Lys Ala Leu
      20
264
267 <210> SEQ ID NO: 16
268 <211> LENGTH: 16
269 <212> TYPE: PRT
270 <213> ORGANISM: SYNTHETIC
272 <220> FEATURE:
273 <221> NAME/KEY: MOD_RES
274 <222> LOCATION: (16)
275 <223> OTHER INFORMATION: AMIDATION
277 <400> SEQUENCE: 16
278 Phe Ala Leu Ala Leu Lys Lys Ala Leu Lys Lys Ala Leu Lys
      1           5           10           15
279

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\I820053.raw

282 <210> SEQ ID NO: 17
283 <211> LENGTH: 17
284 <212> TYPE: PRT
285 <213> ORGANISM: SYNTHETIC
287 <220> FEATURE:
288 <221> NAME/KEY: MOD_RES
289 <222> LOCATION: (17)
290 <223> OTHER INFORMATION: AMIDATION
292 <400> SEQUENCE: 17
293 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Lys Leu Ala Lys Leu Ala
294 1 5 10 15
296 Leu
300 <210> SEQ ID NO: 18
301 <211> LENGTH: 19
302 <212> TYPE: PRT
303 <213> ORGANISM: SYNTHETIC
305 <220> FEATURE:
306 <221> NAME/KEY: MOD_RES
307 <222> LOCATION: (19)
308 <223> OTHER INFORMATION: AMIDATION
310 <400> SEQUENCE: 18
311 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Lys Leu Ala Lys Leu Ala
312 1 5 10 15
314 Leu Ala Leu
318 <210> SEQ ID NO: 19
319 <211> LENGTH: 23
320 <212> TYPE: PRT
321 <213> ORGANISM: SYNTHETIC
323 <220> FEATURE:
324 <221> NAME/KEY: MOD_RES
325 <222> LOCATION: (13)..(14)
326 <223> OTHER INFORMATION: Xaa = D-lysine
328 <400> SEQUENCE: 19
329 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Xaa Xaa Leu Lys
330 1 5 10 15
332 Lys Ala Leu Lys Lys Ala Leu
333 20
336 <210> SEQ ID NO: 20
337 <211> LENGTH: 15
338 <212> TYPE: PRT
339 <213> ORGANISM: SYNTHETIC
341 <220> FEATURE:
342 <221> NAME/KEY: MOD_RES
343 <222> LOCATION: (15)
344 <223> OTHER INFORMATION: AMIDATION
346 <400> SEQUENCE: 20
347 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Lys Leu Leu Ala Leu
348 1 5 10 15
351 <210> SEQ ID NO: 21

*Please correct this error in
subsequent sequences.*

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001

TIME: 15:25:34

Input Set : A:\Helx027.app

Output Set: N:\CRF3\04112001\I820053.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:329 M:341 W: (46). "n" or "Xaa" used, for SEQ ID#:19